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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,176	12/03/2003	Alvin Lo	M61.12-0560	6782

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EXAMINER
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ART UNIT	PAPER NUMBER
2162	

DATE MAILED: 06/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/727,176	LO ET AL.
	Examiner	Art Unit	
	Cam Y T. Truong	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30 and 33-40* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30 and 33-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/29/04, 12/2/04,</u>. 6/28/04

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

1.   Claims 1-30, 32-40 are pending in this Office Action.

Claim Objections

2.   The numbering of claims is not in accordance with 37 CFR 1.126 which requires

the original numbering of the claims to be preserved throughout the prosecution. When

claims are canceled, the remaining claims must not be renumbered. When new claims

are presented, they must be numbered consecutively beginning with the number next

following the highest numbered claims previously presented (whether entered or not).

Because of missing claim number 31:

Claim number "32" should be renumbered "31"; Claim number "33" should be

renumbered "32"; Claim number "34" should be renumbered "33"; Claim number "35"

should be renumbered "34";Claim number "36" should be renumbered "35"; Claim

number "37" should be renumbered "36"; Claim number "38" should be renumbered

"37"; Claim number 39"" should be renumbered "38"; Claim number "40" should be

renumbered "39".

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

4.   Claims 1-38 are rejected under 35 U.S.C.101 because the language of the claim

raises a question as to whether the claim is directed merely to an abstract idea that is

not tied to a technological art, environment or machine which would result in a practice application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C 101.

As regarding to:

Claims 1-9 recite "a standardized data representation of an object-relational data model". The claim fails to contain a comps used to implement the system so as to realize its functionality. Thus, the body of the claim is merely abstract idea and is being processed without any links to a practical result in the technology arts and without computer manipulation.

Claims 10-26 recite "a tagged format data schema". The claims fail to contain a computer that used to implement the schema so as to produce a useful, concrete and tangible result. Thus, the body of the claim is merely abstract idea and is being processed without any links to a practical result in the technology arts and without computer manipulation.

Claims 27-38 recite "an XML data schema". The claims fail to contain a computer that used to implement the schema so as to produce a useful, concrete and tangible result. Thus, the body of the claim is merely abstract idea and is being processed without any links to a practical result in the technology arts and without computer manipulation.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
> (e) the invention was described in (1) an application for patent, published under section 122(b), by
> another filed in the United States before the invention by the applicant for patent or (2) a patent
> granted on an application for patent by another filed in the United States before the invention by the
> applicant for patent, except that an international application filed under the treaty defined in section
> 351(a) shall have the effects for purposes of this subsection of an application filed in the United States
> only if the international application designated the United States and was published under Article 21(2)
> of such treaty in the English language.

6.   Claims 1-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Colossi

et al (or hereinafter "Colossi") (US 2004/0215626).

As to claim 1, Colossi teaches the claimed limitation "standardized data

representation of an object-relational data model, the standardized data representation

configured to support an automatic derivation of a dimensional data model that

corresponds to the object-relational data model " as (paragraphs [0078, 0080]).

As to claim 2, Colossi teaches the claimed limitation "wherein the standardized

data representation enables the object-relational data model to be specified and

decorated with metadata so as to support the derivation of the dimensional model" as

(paragraph [0081-0082]).

As to claim 3, Colossi teaches the claimed limitation "wherein the standardized

data representation is configured to be processed by a processing engine that is

adapted to autonomously derive the dimensional model" as (paragraphs [0081-0083]).

As to claim 4, Colossi teaches the claimed limitation "wherein the standardized

data representation includes a description of objects and object relationships reflected

in the object-relational data model" as (paragraph [0084]).

As to claim 5, Colossi teaches the claimed limitation "wherein the standardized

data representation includes a description of persistent data store mappings associated

with the object-relational data model" as (paragraphs [0089-0090]).

As to claim 6, Colossi teaches the claimed limitation "wherein the standardized

data representation includes a description of at least one focal point that represents a

point of analysis indicated in association with data in the object-relational data model"

as (paragraphs [0091-0092, 0144]).

As to claim 7, Colossi teaches the claimed limitation "wherein the standardized

data representation includes: a description of objects and object relationships reflected

in the object-relational data model" as (paragraph [0091-0092]); and

"a description of persistent data store mappings associated with the object-

relational data model" as (paragraphs (0089-0090)).

As to claim 8, Colossi teaches the claimed limitation "wherein the standardized

data representation further comprises a description of at least one focal point that

represents a point of analysis indicated in association with data in the object-relational

data model" as (paragraphs [0089-0090, 0144]).

7.   Claims 39-40 are rejected under 35 U.S.C. 102(e) as being anticipated by

Colossi et al (or hereinafter "Colossi") (US 2004/0215626).

As to claim 39, Weissman teaches the claimed limitations:

"an extensible system for supporting generation of dimensional data model, the

system comprising: a driver for receiving source data and pre-processing it into a format

consistent with a model definition schema" as (col. 3, lines 25-30; fig. 1);

"a processing engine for receiving data formatted to be consistent with the

model definition schema, and for generating a corresponding dimensional data model"

as (fig. 1, col. 36, lines 20-30; col. 35, lines 40-65).

As to claim 40, Weissman teaches the claimed limitation, "wherein the

processing engine is a translation engine configured to receive data formatted to be

consistent with the model definition schema, and further configured to produce a

customized corresponding dimensional data model". (fig. 1, col. 36, lines 20-30; col. 35,

lines 40-65).

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9.   Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Colossi et al (or hereinafter "Colossi") (US 2004/0215626) in view of Rubendall (US 2005/0246370).

As to claim 9, Colossi does not explicitly teach the claimed limitation "a description of at least one data element selected from a group consisting of a class from the object-relational data model, a data member associated with a class from the object-relational data model, a collection of object-relational mappings that specify how data is retrieved from a relational database, a field that uniquely identifies a class from the object-relational data model, an association relationship indicator that identifies a relationship among classes in the object-relational data model, a composition relationship indicator that identifies a relationship among classes in the object-relational data model, and a measure that identifies an interesting numerical value used for generation of the dimensional model".

Rubendall teaches XML mapping of the object model that the object model contains four classes (paragraph [00553]).

It would have been obvious to a personal of an ordinary skill in the art at the time the invention was made to apply Rubendall's teaching of XML mapping of the object model that the object model contains four classes to Colossi's system in order to allows the object package to be searched at the server-side using XML.

10.   Claims 10-15, 18-30, 32-33, 36-38 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Rubendall (US 2005/0246370) in view of Colossi et al (or hereinafter

"Colossi") (US 2004/0215626).

As to claim 10, Rubendall teaches the claimed limitation "tagged format data

schema for representing an object-relational data model, the tagged format data

schema being configured to support an automatic derivation of a dimensional data

model that corresponds to the object-relational data model" as a tagged format XML

schema for representing an object model. The tagged format XML schema corresponds

to the object model and not derivation of a dimensional data mode (paragraph [0053]).

Rubendall does not explicitly teach the claimed limitation "to support an

automatic derivation of a dimensional data model".

Colossi teaches dimension metadata objects are connected to the facts

metadata object in a cube model just as the dimension tables are connected to the fact

table in a star schema (paragraph [0082]).

It would have been obvious to a person of an ordinary skill in the art at the time

the invention was made to apply Colossi's teaching dimension metadata objects are

connected to the facts metadata object in a cube model just as the dimension tables are

connected to the fact table in a star schema to Rubendall's system in order to improve

performance of a object-relational database management system and produce

multidimensional reports showing results with different levels of granularity by issuing

multiple queries.

As to claims 11 and 28, Rubendall teaches the claimed limitation "wherein the schema includes a tag used to indicate a class in the object-relational data model" as (paragraph [0053]).

As to claims 12 and 29, Rubendall teaches the claimed limitation "wherein the schema includes a tag for indicating a data member associated with a class in the object-relational data model" as (paragraph [0065]).

As to claims 13 and 30, Rubendall teaches the claimed limitation "wherein the schema includes means for indicating a collection of object-relational mappings that specify how a data member associated with a class in the object-relational data model can be filled with data retrieved from at least one table in a relational database" as (paragraph [0060-0064]).

As to claims 14 and 32, Rubendall teaches the claimed limitation "wherein the schema includes a tag for indicating a key field that uniquely identifies a class included in the object-relational data model" as (paragraph [0060-0064]).

As to claims 15 and 33, Rubendall teaches the claimed limitation "wherein the schema includes a tag for indicating a name field that uniquely identifies an instance of a class included in the object-relational data model." as (paragraph [0060-0064]).

As to claims 18 and 36, Rubendall and Colossi teaches the claimed limitation subject matter in claim 10, Colossi further teaches "wherein the schema includes a tag for indicating a measure, a measure being an interesting numerical value used for generation of the dimensional model" as (paragraph [0159]).

As to claims 19 and 37, Rubendall and Colossi teaches the claimed limitation subject matter in claim 10, Colossi further teaches, wherein the schema enables the object-relational data model to be specified and decorated with metadata so as to support the derivation of the dimensional model" as (paragraphs [0112, 0113]).

As to claim 20, Rubendall and Colossi teaches the claimed limitation subject matter in claim 10, Colossi further teaches "wherein the schema is configured to be processed by a processing engine that is adapted to autonomously derive the dimensional model" as (paragraph [0078]).

As to claim, 21, Rubendall teaches the claimed limitation "wherein the schema includes a description of objects and object relationships reflected in the object-relational data model" as (paragraphs [0060-0064, 0035-0040]).

As to claim 22, Rubendall teaches the claimed limitation "wherein the schema includes a description of persistent data store mappings associated with the object-relational data model" as ((paragraphs [0060-0064, 0035-0040]).

As to claim 23, Rubendall teaches the claimed limitation "wherein the schema includes a description of at least one focal point that represents a point of analysis indicated in association with data in the object-relational data model" as (paragraphs [0060-0064, 0035-0040]).

As to claim 24, Rubendall teaches the claimed limitation "wherein the schema includes: a description of objects and object relationships reflected in the object-relational data model; and a description of persistent data store mappings associated with the object-relational data model" as (paragraphs [0060-0064, 0035-0040]).

As to claim 25, Rubendall teaches the claimed limitation "wherein the schema further comprises a description of at least one focal point that represents a point of analysis indicated in association with data in the object-relational data model" as (paragraphs [0060-0064, 0035-0040]).

As to claims 26 and 38, Rubendall teaches the claimed limitation "wherein the schema comprises a description of at least one data element selected from a group consisting of a class from the object-relational data model, a data member associated

with a class from the object-relational data model, a collection of object-relational

mappings that specify how data is retrieved from a relational database, a field that

uniquely identifies a class from the object-relational data model, an association

relationship indicator that identifies a relationship among classes in the object-relational

data model, a composition relationship indicator that identifies a relationship among

classes in the object-relational data model, and a measure that identifies an interesting

numerical value used for generation of the dimensional model" as (paragraph [0053]).

As to claim 27, Rubendall teaches the claimed limitation "an XML data schema

for representing an object-relational data model, the XML data schema being configured

to support an automatic derivation of a dimensional data model that corresponds to the

object-relational data model". as a tagged format XML schema for representing an

object model. The tagged format XML schema corresponds to the object model and not

derivation of a dimensional data mode (paragraph [0053]).

Rubendall does not explicitly teach the claimed limitation "to support an

automatic derivation of a dimensional data model".

Colossi teaches dimension metadata objects are connected to the facts

metadata object in a cube model just as the dimension tables are connected to the fact

table in a star schema (paragraph [0082]).

It would have been obvious to a person of an ordinary skill in the art at the time

the invention was made to apply Colossi's teaching dimension metadata objects are

connected to the facts metadata object in a cube model just as the dimension tables are

connected to the fact table in a star schema to Rubendall's system in order to improve

performance of a object-relational database management system and produce

multidimensional reports showing results with different levels of granularity by issuing

multiple queries.

11.   Claims 16-17 and 34-35 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Rubendall in view of Colossi and further in view of Wang (US

6907433).

As to claims 16 and 34, Rubendall does not explicitly teach the claimed limitation

"wherein the schema includes a tag for indicating an association relationship among

multiple classes in the object-relational data model".

Wang teaches to manipulate target objects and relationships in a relational

database when a source object having

a one-to-many relationship of privately owned type with the target objects is

manipulated. To generate instructions, it uses mapping meta-data which contains

information as to how object classes of the object model map to tables

in the database and how relationships map to foreign keys (col. 2, lines 5-10).

It would have been obvious to a person of an ordinary skill in the art at the time

the invention was made to apply Wang's teaching of relationship among multiple

classes to provide a method for managing object to relational one-to-many mapping for

an object model mapped to a relational database correctly.

As to claims 17 and 35, Rubendall teaches the claimed limitation "wherein the schema includes a tag" as (paragraph [0053]).

Rubendall does not explicitly teach "for indicating a composition relationship among multiple classes in the object-relational data model".

Wang teaches to manipulate target objects and relationships in a relational database when a source object having a one-to-many relationship of privately owned type with the target objects is manipulated. To generate instructions, it uses mapping meta-data which contains information as to how object classes of the object model map to tables in the database and how relationships map to foreign keys (col. 2, lines 5-10).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Wang's teaching of relationship among multiple classes to provide a method for managing object to relational one-to-many mapping for an object model mapped to a relational database correctly.

12.   Claims 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted of the prior art of the application in view of de Souza et al (or hereinafter "Souza") (US 2005/0038780).

As to claim 39, the admitted of the prior art of the application teaches "an extensible system for supporting generation of dimensional data model, the system comprising: a driver for receiving source data and pre-processing it into a format consistent with a model definition schema" as (paragraph [0005]).

The admitted of the prior art of application does not explicitly teach the claimed

limitation "a processing engine for receiving data formatted to be consistent with the

model definition schema, and for generating a corresponding dimensional data model".

Souza teaches the server allows a user to model the data stored in data storage

location to create a multi-dimensional and hierarchical representation of the data. This

muti-dimensional data model may stored in a repository 16 (paragraph [0016]).

It would have been obvious to a person of an ordinary skill in the art at the time

the invention was made to apply Souza's teaching the server allows a user to model the

data stored in data storage location to create a multi-dimensional and hierarchical

representation of the data. This muti-dimensional data model may stored in a repository

16 to the admitted of the prior art of the application in order to solve the problem

instance including the objective function, the optimization operator, and the one or more

constraints in the multi-dimensional format.

As to claim 40, The admitted of the prior art of application does not explicitly

teach the claimed limitation, "wherein the processing engine is a translation engine

configured to receive data formatted to be consistent with the model definition schema,

and further configured to produce a customized corresponding dimensional data

model".

Souza teaches the server allows a user to model the data stored in data storage

location to create a multi-dimensional and hierarchical representation of the data. This

muti-dimensional data model may stored in a repository 16 (paragraph [0016]).

It would have been obvious to a person of an ordinary skill in the art at the time

the invention was made to apply Souza's teaching the server allows a user to model

the data stored in data storage location to create a multi-dimensional and hierarchical

representation of the data. This muti-dimensional data model may stored in a repository

16 to the admitted of the prior art of the application in order to solve the problem

instance including the objective function, the optimization operator, and the one or more

constraints in the multi-dimensional format.

Conclusion

13.   The prior art made of record and not relied upon is considered pertinent to
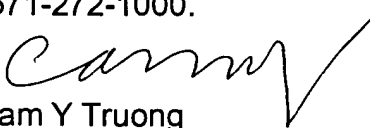
applicant's disclosure.

Cras et al (US 2002/0087516).

Contact Information

14.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Cam Y T. Truong whose telephone number is (571)

272-4042. The examiner can normally be reached on Monday to Firday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Cam Y Truong
Primary Examiner
Art Unit 2162
6/23/2006